

Appln. No.: 10/659,237
Amendment Dated March 27, 2008
Reply to Office Action of December 27, 2007

MTS-3302US1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appln. No.: 10/659,237
Applicant: Yasuhiro Mori
Filed: September 10, 2003
Title: VITAL SIGNS DETECTION SYSTEM, VITAL SIGNS DETECTION METHOD,
VITAL SIGNS PROCESSING APPARATUS, AND HEALTH CONTROL METHOD
TC/A.U.: 3736
Examiner: Sharick Naqi
Confirmation No.: 3510
Docket No.: MTS-3302US1

AMENDMENT UNDER 37 C.F.R. § 1.116**Expedited Procedure**

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Responsive to the Final Office Action dated December 27, 2007, please amend the above-identified application as follows:

- ☐ **Amendments to the Specification** begin on page _____ of this paper.
- ☒ **Amendments to the Claims** are reflected in the listing of claims which begins on page 2 of this paper.
- ☐ **Amendments to the Drawings** begin on page _____ of this paper and include an attached replacement sheet(s).
- ☐ **Amendments to the Abstract** are on page _____ of this paper. A clean version of the Abstract is on page _____ of this paper.
- ☒ **Remarks/Arguments** begin on page 11 of this paper.

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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

1. - 5. (Cancelled)

6. (Withdrawn) A vital signs processing apparatus comprising:

vital signs detecting means configured to detect vital signs of a user, the vital sign detecting means comprising:

buffering means configured for temporarily storing said detected vital signs, and

first communicating means; and

vital signs processing means configured to process, store, and display said vital signs detected by said vital signs detecting means, the vital signs processing means comprising:

second communicating means configured for communicating with said vital signs detecting means;

storing means configured for storing detected said vital signs;

processing means configured for processing said vital signs stored in said storing means according to a predetermined program and/or data; and

displaying means configured for displaying said vital signs stored in said storing means and/or output data of said processing means,

wherein said first communicating means is configured for communicating with said vital signs processing means, and

wherein said buffering means and said storing means comprise a removable medium which can be detached, and said removable medium is transferable between said vital signs detecting means and said vital signs processing means to transfer data stored in said removable medium.

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7. (Withdrawn) The vital signs processing apparatus according to claim 6, wherein said vital signs processing means further comprises third communicating means configured for communicating with an external server.

8. (Withdrawn) The vital signs processing apparatus according to claim 54 or 55, wherein:

said buffering means and said storing means comprise a removable medium which can be detached; and

said removable medium is transferable between said vital signs detecting means and said vital signs processing means, whereby the data stored in said removable medium is transferred.

9. (Withdrawn) The vital signs processing apparatus according to any of claims 6, 54 or 55, wherein:

said vital signs detecting means comprises a pulse wave sensor for measuring a pulse wave of the user; and

said processing means comprises:

frequency processing means of performing FFT (fast Fourier transformation) processing onto said pulse wave to generate an output;

heart rate measuring means of measuring a heart rate of the user from the output of said frequency processing means; and

calorie consumption calculating means of calculating calorie consumption of the user from said heart rate.

10. (Withdrawn) The vital signs processing apparatus according to claim 9, wherein:

said vital signs processing means further comprises FFT processing means of performing FFT processing onto said heart rate;

according to a result of said FFT processing, it is determined whether said user is exercising or not; and

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when it is determined that said user is not exercising, and when said heart rate exceeds a predetermined set value, said calorie consumption calculating means does not use said measured heart rate, but calculates calorie consumption according to said user's resting heart rate stored previously.

11. (Withdrawn) The vital signs processing apparatus according to claim 9, further comprising inputting means configured to permit a user to input: personal data including one's name, age, and sex; the health control indices as daily, weekly, monthly, and final target values for calorie consumption; and upper and lower limits for heart rate at exercise, and exercise time.

12. (Withdrawn) The vital signs processing apparatus according to claim 11, wherein said health control indices and said exercise indices are displayed on said displaying means.

13. (Withdrawn) The vital signs processing apparatus according to claim 9, further comprising:

inputting means configured to accept inputted upper and lower limits of a safe heart rate; and

notifying means configured to warn said measured user when said heart rate falls outside a range between said upper and lower limits for the safe heart rate.

14. (Withdrawn) The vital signs processing apparatus according to claim 11, wherein:

said processing means performs: accumulation of said calorie consumption to provide an accumulated value of calorie consumption; calculation of a difference of the accumulated calorie consumption from a target value; calculation of a degree of achievement to said target value; and calculation of an expected time of achieving said target value at a current pace of calorie consumption; and then stores these data in a region different from that of said vital signs data, within said storing means; and

said displaying means displays: a time series of a change in said measured heart rate and said calorie consumption; said accumulated value of calorie consumption; and

said expected time of achieving said target value.

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15. - 27. (Cancelled)

28. (Withdrawn) A computer readable medium including a program for operating a computer as said processing means of said vital signs processing means of said vital signs processing apparatus according to any of claims 6, 54 or 55.

29. - 51. (Cancelled)

52. (Withdrawn) The vital signs processing apparatus of claim 55, wherein the server is further configured to:

determine whether the detected vital signs, received from the vital signs processing means via the third communicating means, are within a predetermined range for the user;

change the health control program; and

transfer the changed program to the vital signs processing means via the third communicating means, when the detected vital signs are determined to be outside of the predetermined range for the user.

53. (Cancelled)

54. (Withdrawn) A vital signs processing apparatus comprising:

vital signs detecting means configured to detect vital signs of a user, the vital sign detecting means comprising:

buffering means configured for temporarily storing said detected vital signs, and

first communicating means; and

vital signs processing means configured to process, store, and display said vital signs detected by said vital signs detecting means, the vital signs processing means comprising:

second communicating means configured for communicating with said vital signs detecting means;

storing means configured for storing said detected vital signs;

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processing means configured for processing said vital signs stored in said storing means according to a predetermined program and/or data;

third communicating means configured for communicating with an external server; and

displaying means configured for displaying said vital signs stored in said storing means and/or output data of said processing means,

wherein said first communicating means is configured for communicating with said vital signs processing means, and

wherein the external server includes:

means configured for determining whether the detected vital signs, received from the vital signs processing means via the third communicating means, are within a predetermined range for the user,

means configured for changing the predetermined program and/or data and transferring the changed program and/or data to the vital signs processing means via the third communicating means, when the detected vital signs are determined to be outside of the predetermined range for the user.

55. (Withdrawn) A vital signs processing apparatus comprising:

vital signs detecting means configured to detect vital signs of a user, the vital sign detecting means comprising:

buffering means configured for temporarily storing said detected vital signs, and

first communicating means; and

vital signs processing means configured to process, store, and display said vital signs detected by said vital signs detecting means, the vital signs processing means comprising:

second communicating means configured for communicating with said vital signs detecting means;

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storing means configured for storing said detected vital signs;

processing means configured for processing said vital signs stored in said storing means according to a predetermined program and/or data;

third communicating means configured for communicating with an external server; and

displaying means configured for displaying said vital signs stored in said storing means and/or output data of said processing means,

wherein said first communicating means is configured for communicating with said vital signs processing means, and

wherein the server is configured to:

generate a health control program comprising exercise indices, an exercise menu, and health control indices, the exercise indices directing an exercise routine of the user, and

transmit the health control program to the vital signs processing means.

56. (Withdrawn) The vital signs processing apparatus according to claim 55, wherein the server includes a user chart comprising stored vital signs of the user, the stored vital signs comprising height, weight, body fat percentage, and temperature of the user, the server being further configured to generate the health control program using the user chart.

57. (Withdrawn) The vital signs processing apparatus according to claim 56, wherein the health control indices specify target values for a health of the user.

58. (Withdrawn) The vital signs processing apparatus of claim 56, wherein:

the vital signs detecting means is further configured to receive further vital signs from the user exercising according to the predetermined program and/or data;

the vital signs processing means is further configured to transmit the further vital signs to the server via the third communication means; and

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the server is further configured to modify the health control program according to the further vital signs received from the vital signs processing apparatus.

59. (Withdrawn) The vital signs processing apparatus of claim 56, wherein the vital signs processing means is further configured to transmit warning information for requesting attention to said server via the third communication means when the detected vital signs fall outside a range of values set in the health control program.

60. (Currently Amended) A method of controlling a health of a user of a vital signs processing apparatus comprising **[[a]]** vital signs detecting means configured to detect vital signs of the user and a vital sign processing means configured to process, store, and display the vital signs detected by the vital signs detecting means, the method comprising:

generating a health control program in a server according to a user chart ~~containing~~ comprising vital signs including height, weight, body fat percentage, and temperature of said user, the health control program including ~~all or part~~ one or more of exercise indices, ~~an exercise menu,~~ and health control indices of the user of the vital signs processing apparatus, the server being external to the vital signs processing apparatus;

transmitting the health control program to the vital signs processing apparatus;

receiving the health control program in the vital signs processing apparatus;

measuring vital signs of the user exercising according to ~~instructions in the~~ health control program,

wherein the health control program directs an exercise routine of the user, the exercise indices include at least one target value for at least one vital sign of the user during exercise, and the health control indices include information on at least one target calorie consumption value of the user for a respective at least one predetermined time unit.

61. (Previously Presented) The method according to claim 60 further comprising:

transmitting the measured vital signs to the server;

modifying the health control program depending on the transmitted vital signs; and

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transmitting the modified health control program to the vital signs processing apparatus.

62. (Previously Presented) The method according to claim 60 further comprising:

determining, in the vital signs processing apparatus, whether the measured vital signs fall outside a range of values set in the health control program; and

transmitting warning information from the vital signs processing apparatus to the server requesting attention from the server.

63. (Currently Amended) The method according to claim 62 further comprising:

altering the exercise indices ~~and/or the exercise menu~~ in the health control program according to the warning information to provide a modified health control program; and

transmitting the altered exercise indices ~~and/or exercise menu~~ to the vital signs processing apparatus to provide the vital signs processing apparatus with the modified health control program.

64. (Previously Presented) The method according to claim 61 further comprising:

measuring further vital signs of the user exercising according to instructions in the modified health control program.

65. (Previously Presented) The method according to claim 60 further comprising:

providing prompt information for requesting renewal of measured vital signs to the user;

measuring new vital signs of the user; and

transmitting the new measured vital signs to the server.

66. (Previously Presented) The method according to claim 65, wherein said prompt information is output when the measured vital signs are not renewed for a predetermined time or longer.

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67. (Previously Presented) The method according to claim 65, wherein the prompt information includes a method of operation of the vital signs processing apparatus for the user to renew the measured vital signs.

68. (Previously Presented) The health control method according to claim 65, wherein the prompt information includes a method of operation of the server for the user of the vital sign processing apparatus.

69. (Previously Presented) The health control method according to claim 60 wherein:

the server further comprises a user ID (identifier) table for storing user identifications for corresponding a user chart of each user to that user uniquely; and

each user identification is transmitted together with the health control program to the vital signs processing apparatus.

70. (Previously Presented) A computer readable tangible medium including a program for operating a central processing unit of a computer to perform all of the steps of generating and transmitting in the method of claim 60.

71. (Previously Presented) A data structure on a computer readable tangible medium including instructions for operating a central processing unit of a computer to perform all of the second steps of generating and transmitting in the method of claim 60.

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Remarks/Arguments:

Claims 6-14, 28, 52, and 54-71 are pending in the above-identified application. Claims 1-5, 15-27, 29-51, and 53 have been previously canceled. By the present Amendment, claims 6-14, 28, 52, and 54-59 are withdrawn from consideration. Thus, claims 60-71 are presented for consideration. By the present Amendment, claims 60 and 63 are amended.

Rejection under 35 U.S.C. § 112, Second Paragraph

Claim 60 is rejected under 35 U.S.C. § 112, second paragraph, for including a recitation of "the health control program including all or part of exercise indices, and exercise menu, and health control indices of the user" By the present Amendment, Applicant amends this recitation to recite instead "the health control program including **one or more of exercise indices and health control indices** of the user . . ." (emphasis added). Favorable reconsideration is respectfully requested.

Rejections under 35 U.S.C. § 102(b)

Pending claims 60-71 are rejected under 35 U.S.C. § 102(b) for allegedly being anticipated by U.S. Patent No. 6,478,736 to Mault. It is noted that Mault issued November 12, 2002. The publication date of Mault does not precede the filing date of the above-identified application by more than one year. Thus, Mault is not a proper basis for rejection of claims 60-71 under 35 U.S.C. § 102(b), as indicated in the Office Action. Thus, Applicant respectfully asserts that the rejection of claims 60-71 under 35 U.S.C. § 102(b) is improper and requests it be withdrawn.

Additionally, Applicant notes that the above-identified application was filed on September 10, 2003 and is a divisional application of U.S. Patent Application No. 10/057,669 (herein "the '669 Application"), which was filed on January 25, 2002. The publication date of Mault is, therefore, subsequent to the filing date of the '669 Application. Thus, Applicants respectfully assert that Mault is not a prior-art publication under 35 U.S.C. § 102(a) either.

To expedite prosecution, by the present Amendment, Applicant amends claim 60 to clarify features of the claim. It is respectfully asserted that Mault does not disclose or suggest the following features of amended claim 60:

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generating a health control program in a server . . . , the health control program including one or more of exercise indices and health control indices of the user of the vital signs processing apparatus . . . the server being external to the vital signs processing apparatus . . .

wherein the health control program directs an exercise routine of the user, the exercise indices include at least one target value for at least one vital sign of the user during exercise, and the health control indices include information on at least one target calorie consumption value of the user for a respective at least one predetermined time unit.

These features can be found in the originally-filed Application on page 58, lines 9-21. No new matter has been added.

The Office Action cites column 8, line 32 through column 12, line 40 and FIGS. 7A-12C and FIG. 15 of Mault as disclosing the "exercise indices" and "health control indices" and associated features of claim 60. Although it is not clear what specific features of Mault the Office Action considers as disclosing the "exercise indices" and "health control indices" of claim 60, Applicants respectfully contend that portions of Mault cited in the Office Action and discussed below do not disclose all of the above-quoted features of claim 60.

Mault describes a portable computing device 52. The user of portable computing device 52 uses device 52 (1) to enter, via a menu system, identifications of foods consumed so that device 53 can track calories ingested and (2) to enter activity levels so that device 52 can compute calories expended. (See Mault, column 7, lines 25-44.) Device 52 may receive activity levels from an activity sensor 60, which may be an accelerometer, thereby relieving the user from the necessity of inputting activity information. (See Mault, column 7, lines 51-54 and column 9, lines 33-37.) Device 52 compares calories ingested by the user to calories expended by the user to calculate a calorie balance for the user. (See Mault, column 6, lines 48-51 and column 9, lines 13-24.) Device 52 provides feedback to the user regarding the user's calorie balance. (See Mault, column 6, lines 48-51.) Mault also describes that the user may also set "health related goals, such as body fat percentage, RMR, or other physiological parameters such as resting heart rate" using device 52. (See Mault, column 6, lines 65-67.)

Portable electronic device 52 of Mault transmits the calorie intake and expenditure information, as well as "health and weight status" of the user, to a remote computer system 80 which is operated by an expert who provides feedback to the user regarding the user's caloric

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intake and expenditure. (See Mault, column 10, lines 31-39.) Mault also discloses that an exercise program may be devised and displayed on an interactive television (also referred to in Mault as an "entertainment device"). (See Mault, column 11, lines 36-45.) The exercise program is based on the user's "demographic data (age, gender), weight, and previous levels of activity." (See Mault, column 11, lines 36-45.) Although not entirely clear from the description in Mault, it appears that device 52 generates the exercise program. (See Mault, column 11, lines 24-45.)

Mault does not disclose or suggest the "**exercise indices**" that are recited in the above-quoted portion of claim 60. As recited in the above-quoted portion of claim 60, the "exercise indices" include "at least one target value for at least one vital sign of the user during exercise." As noted above, in Mault, the user of device 52 may input "health related goals" such as a resting heart rate into device 52. The user may also input physical activity information. Neither a resting heart rate nor physical activity information is a "**target** value for at least one vital sign of the user **during exercise**" as defined in amended claim 60. This **target value** is a value to be achieved during exercise (see our specification page 58, line 16 through page 59, line 4.) (Emphasis added.) Thus, the resting heart rate and the physical activity information input by the user in Mault does not disclose or suggest the "exercise indices," recited in claim 60.

Further, in Mault, the user inputs the resting heart rate and activity levels into device 52, which is separate from the remote computer system 80 described therein. (Mault also describes that device 52 may sense the physical activity of the user.) Mault does not appear to describe that the inputted resting heart rate or the inputted (or sensed) physical activity information is part of a health control program generated in a server external to a vital signs processing apparatus. The external server recited in amended claim 60 is in, for example, a doctor's office and generates a health control program that includes a target value for a vital sign during exercise. Thus, Applicant respectfully asserts that the inputting of a resting heart rate and physical activity information into device 52 does not disclose or suggest "generating a health control program in a server . . . , the health control program including one or more of exercise indices . . . **the server being external to the vital signs processing apparatus**" (emphasis added), as recited in the above-quoted portion of claim 60.

Mault also does not disclose or suggest the "**health control indices**" that are recited in the above-quoted portion of claim 60. As recited in the above-quoted portion of claim 60, the

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"health control indices" include "information on at least one target calorie consumption value of the user for a respective at least one predetermined time unit." As noted above, Mault describes comparing expended calories to ingested calories in device 52. The ingested calories are inputted by the user into device 52. The inputted calorie information, however, is not "information on at least one **target** calorie consumption value of the user for a respective at least one predetermined time unit" as defined in amended claim 60. This **target value** is a value to be achieved over a predetermined time. (see our specification page 58, line 16 through page 59, line 4.) (Emphasis added.) Thus, the calorie consumption data input by the user in Mault does not disclose or suggest the "health control indices" recited in claim 60.

Further, in Mault, the user of device 52 inputs calorie consumption information into device 52. Device 52 may then transmit the calorie consumption information to remote computer system 80. Mault does not describe that the inputted calorie consumption data is part of a health control program generated in a server external to a vital signs processing apparatus. The external server recited in amended claim 60 is in, for example, a doctor's office and generates a health control program that includes a target value for calorie consumption. Thus, Applicant respectfully asserts that the inputting of calorie consumption data into device 52 does not disclose or suggest "generating a health control program in a server . . . , the health control program including one or more of . . . health control indices . . . **the server being external to the vital signs processing apparatus**" (emphasis added), as recited in the above-quoted portion of claim 60.

Finally, as noted above, Mault describes that device 52 transmits the calorie intake and expenditure information, as well as other "health and weight status" of the user, to a remote computer system 80 which is operated by an expert who provides feedback to the user regarding the user's caloric intake and expenditure. Mault does not describe that the feedback provided by the expert or the exercise program include "one or more of exercise indices and health control indices," as required by claim 60. Mault also describes the generation of an exercise program (presumably in device 52) that is based on the user's "demographic data (age, gender), weight, and previous levels of activity." As noted above, the exercise program appears to be generated in device 52, not in a "server being external to the vital signs processing apparatus," as required by amended claim 60. Thus, Applicant respectfully asserts that the feedback and the exercise program of Mault do not disclose or suggest the above-quoted features of claim 60.

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In view of the foregoing, Applicant respectfully asserts that Mault does not disclose or suggest all of the above-quoted features of claim 60. Withdrawal of the rejection and allowance of the claim are respectfully requested.

Claims 61-71 depend from claim 60 and, therefore, include all of the limitations of claim 60. By the present Amendment, Applicant amends claim 63 to clarify the features of the claim. For at least the same reasons as discussed above, Applicant respectfully asserts that Mault does not disclose or suggest all of the features of claims 61-71. Withdrawal of the rejections and allowance of claims 61-71 are respectfully requested.

With regard to claim 61, there is recited a step of "**modifying the health control program** depending on the transmitted vital signs." (Emphasis added.) As discussed above, Mault does not disclose generating the health control program recited in claim 60 in an external server. For similar reasons, Applicant respectfully asserts that Mault does not disclose **modifying** the health control program recited in claims 60 and 61 in an external server. Even if one were to interpret the description in Mault relating to the exercise program generated in device 52 as disclosing the features of amended claim 60 relating to the generation of the health control program, Applicant asserts that Mault does not describe **modifying** such program depending upon transmitted vital signs. Thus, Applicant respectfully asserts that Mault does not disclose the features of claim 61. Favorable reconsideration is respectfully requested.

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Conclusion

In view of the amendments and arguments set forth above, Applicant respectfully asserts that the above-identified application is in condition for allowance, which action is respectfully requested.

Respectfully submitted,



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